


APPROVALS

This Lead Based Paint Management Plan (LBPMP) addresses lead based-paint management requirements specific to U.S. Army Garrison - Heidelberg (USAG-HD), formerly the 411th Base Support Battalion (BSB).

This LBPMP satisfies the requirement to develop and maintain such as plan as contained in Chapter 17, Lead Based Paint, Final Governing Standards (FGS) for Germany.


This plan must be updated at least once every 5 years, or as information/data contained herein changes.

Approved by:



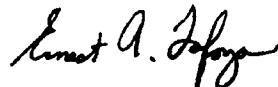
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SUMMARY of CHANGE

Lead Based Paint Management Plan (LBPMP)
for the U.S. Army Garrison Heidelberg

This revision recognizes the fact that on 13 October 2005, the 26th Area Support Group and the 411th Base Support Battalion were merged to form the U.S. Army Garrison Heidelberg.

Throughout the following document, consider every mention of “26th Area Support Group (ASG)” and “411th Base Support Battalion (BSB)” to have been changed to read “U.S. Army Garrison Heidelberg (USAG-HD); consider the term “military community” and “community” to have been changed to “garrison”.

**411th Base Support Battalion
Lead Based Paint Management Plan**

August 1999
(Revised May 2002)

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Date

411th BSB Lead-Based Paint Management Plan

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411th BSB

Lead-Based Paint Management Plan

Section 1.0 Introduction

It is the policy of the 411th BSB to provide safe and healthful living and working conditions for soldiers, their families and civilians.

This Lead-Based Paint Management Plan (LBPMP) applies to all personnel, facilities, buildings, military units, DODDS, NAF, AAFEES, DRMO, NATO units, and contractor activities under the jurisdiction of the 411th BSB. It is designed to establish management/organizational responsibilities and procedures for ensuring personnel in these facilities are not exposed to excessive levels of lead. See attached Installation List.

1.1 Purpose

The purpose of lead hazard management at the 411th BSB is to determine if lead hazards exist in target housing and child-occupied facilities and to recommend methods to control or abate lead hazards and their sources.

This LBPMP's focus is on taking positive action to deal with current and near-term lead-based paint management in place needs, rather than on planning solely for future removal of lead-based paint (LBP) from 411th BSB facilities. The LBPMP will provide the foundation for maintaining a permanent record on the current status and general condition of lead-based paint (LBP) in the 411th BSB facilities, and the areas of jurisdiction.

Army policy, AR 200-1, Section 4-6 Lead Hazard Management, is to manage LBP in place as long as practicable, cost effectively, and so neither the public health nor the environment are endangered; ideally until a facility with LBP is scheduled for renovation or demolition (except in residences, medical facilities, and facilities used by children, where any deteriorated lead-based paint that might lead to exposure shall be removed). This policy requires installations have specific procedures for managing facilities with LBP and protecting personnel from the hazards associated with deteriorated LBP. The section entitled Standard Operating Procedures addresses proper paint film stabilization techniques.

It is the Army's intention to remove LBP whenever it is opportune to do so, whenever it is a potential threat to personal health and the environment, and as necessary to comply with applicable regulations. Therefore, the LBPMP provides guidance on the management procedures for removal of lead-based paint when the situation warrants.

Lead-based paint is also a potential threat to workers. This document will address lead and LBP found in facility building materials (i.e., roofs, electrical conduits, water and sewer pipes, walls, baseboards, eaves, railings, etc.).

The LBPMP will address organizational roles and responsibilities, program development, data management, as well as management actions and training. It will provide for oversight of the entire facility lead-based paint management program. The purpose of the section on organizational responsibilities is to assign responsibilities, authorities, and interactions among 411th BSB organizations to ensure all requirements are satisfied. The purpose of the section on lead-based paint program developments is to maintain a permanent and current record of the status and condition of LBPCM in the facility inventory. Management actions will cover surveying lead-based paint locations, ranking projects and establishing procedures for work accomplishments. The purpose of training is to define the personnel to be trained and their training requirements.

1.2 Background

Lead-based paint is regulated by the Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), and Housing and Urban Development (HUD). Regulations concerning lead-based paint are contained in the Code of US Federal Regulations (CFR) in 24 CFR Part 35, 29 CFR Part 1926.62, 29 CFR 1910.1025, 29 CFR 1910.134 and 40 CFR Part 745,. HUD has developed Guidelines titled Evaluation and Control of Lead-Based Paint Hazards in Housing. The U.S. Army has developed a Technical Bulletin, PWTB 420-70-2

Installation Lead Hazard Management and AR 40-5, AR 200-1, AR 210-50, AR 420-70 and AR 608-10. The US Congress has enacted the Toxic Substance Control Act (TSCA), Title X Section 1018 and Sections 402, 403, 404 and 406 (a) & (b) to control exposure to lead contamination. These regulations/guidelines and related regulations, guidelines and publications govern control of lead-based paint to protect the environment and public health.

The guidance in which all areas under the 411th BSB jurisdiction must adhere to is the Lead-Based Paint Management Plan based on EPA/HUD/HN regulations. This guidance is a synthesis of the most stringent US and host nation laws.

Elemental lead is a heavy, soft, malleable bluish metal. It generally occurs in nature in the form of ores and was recovered in early times as a by-product in the smelting of silver. Once lead is mined, processed and introduced into man's environment, it is a potential problem forever. Lead has been mined, smelted and compounded for thousands of years. Its versatility, as well as favorable physical and chemical properties, accounted for its extensive use. Lead can be rolled into sheets which can be made into rods and pipes. It can be molded into containers and mixed with other metallic elements. Lead was used in building construction, especially roofing, cornices, electrical conduits and water and sewer pipes.

Lead compounds such as white lead and lead chromate were widely used as pigments in paint. Lead is also commonly present in varnishes and primers. Although the use of lead-based paint, in particular on interior surfaces, has declined over the years, most housing units built before 1980 contain some lead-based paint.

Sustained use of large quantities of lead over many years has resulted in extensive environmental contamination. Although lead occurs naturally in small quantities in the earth's crust, by far the greatest risk of exposure to lead derives from man-made processes and products.

The major source of lead for most adults is occupational exposure. For infants and young children, however, surface dust and soil are the major lead hazards, because young children play on floors and on outside play areas that may be contaminated with lead. They frequently put fingers, toys and other objects in their mouths. The surface dust and soil exposure pathways are often derived from lead-based paint. Air is a less important pathway for lead deriving from lead-based paint, although lead may be airborne dust during refinishing or renovation activities, or because of windblown surface dust.

Children living in buildings with lead-based paint also become exposed by directly eating chips of lead-based paint, or chewing on protruding surfaces painted with lead-based paint.

Experts agree there are three major sources of lead exposure today: 1) lead-based paint, 2) urban soil and dust, 3) drinking water. There is an association between the presence of lead-based paint and the presence of excessive levels of lead in dust and soil. Lead in drinking water derives primarily from leaded solder, brass fittings and fixtures and service lines.

1.3 Health Effects

Lead in the body can cause serious damage to the central and peripheral nervous system, the cardiovascular system and the kidneys. Exposure to high concentrations of lead can cause retardation, convulsions, coma and, sometimes, death. Children are especially vulnerable and susceptible to lead poisoning. Even low levels, persisting during childhood are known to slow a child's normal development and cause learning and behavioral problems. Lead is distributed via the bloodstream to red blood cells, soft tissue and bone. Lead in the body is eliminated very slowly by the kidneys and gastrointestinal tract. Small amounts are lost through perspiration.

The Agency for Toxic Substances and Disease Registry (ATSDR), as well as numerous other investigators, report long-lasting impacts on intelligence, motor control, hearing and emotional development in children who have levels of lead in the body that are not associated with obvious symptoms. The most common symptom of acute lead poisoning is colicky abdominal pain, evolving over days and weeks. Constipation can occur and may be associated with the destruction of red blood cells. The other manifestation of acute lead poisoning is damage to the brain and central nervous system. Additional complaints may include irritability, fatigue, weakness and muscle pain.

Chronic lead poisoning may result after lead has accumulated in the body over time, mostly in the bone. Long after exposure has ceased, some physiological event such as illness or pregnancy may release this stored lead from the bone and produce adverse health effects such as impaired hemoglobin synthesis, alteration in the central and

peripheral nervous systems, hypertension, effects on the male and female reproductive systems and damage to a developing fetus (lead freely crosses the placenta).

1.4 Objectives

This LBPMP is a comprehensive tool for the proper lead-based paint management within the 411th BSB. It encompasses guidelines and procedures currently addressed in various documents and memoranda. The objectives of the LBPMP are:

- To define requirements for effective management of lead-based paint in areas under the 411th BSB jurisdiction, including specific tasks for meeting regulatory requirements and for ensuring the health of US Army employees, their families, and other occupants of 411th BSB facilities.
- To establish a system of identification, evaluation, and ranking of related hazards so resources can be appropriately applied to address high priority problems.
- To outline a management program that will provide for routine monitoring of LBP in facilities to ensure they are maintained in good condition; make expedient repair or removal when there is damage; and take all necessary precautions to minimize the exposure to personnel.
- To ensure decisions regarding specific conditions involving LBP are based on a direct evaluation of conditions by qualified DPW, PMA professionals. Qualified personnel are those personnel who have received the appropriate EPA/HUD and/or host nation equivalent training.
- To establish feasible, realistic, and effective programs for addressing lead-based paint problems in areas under the 411th BSB jurisdiction.
- To establish accountability for compliance with legal, regulatory, and policy requirements concerning LBP by clarifying, defining and assigning responsibilities.
- To provide adequate and timely notification of intent to work with/on LBP in accordance with US/HN regulations.
- To provide for the establishment of a complete and usable facility specific database for recording information of LBP, to integrate adequate documentation of LBP in information sources routinely used by the DPW in planning and executing their work, and to keep the database current.
- To have personnel involved in the management and assessment of LBP adequately and appropriately trained in accordance with US/HN regulations.
- To disseminate accurate information to all 411th BSB assets personnel concerning potential health risks from lead-based paint.

The basic approach to the management of lead-based paint in 411th BSB assets involves identifying a Lead-Based Paint Program Manager (LBPPM) who will act as the primary focal point for the lead-based paint program and who is responsible for the execution of the LBPMP. The position description of the designated LBPPM will indicate he/she has responsibility for this LBPMP. A Lead-Based Paint Operations Officer (LBPOO) will also be identified to oversee the implementation of lead-based paint remediation operations on 411th BSB facilities.

The effectiveness of the LBPMP depends on a clear delineation of roles and responsibilities for implementation (Figure 1). Since responsibility for both management of 411th BSB facilities and compliance with environmental protection requirements rests with the (DPW), the DPW is the Office of Primary Responsibility (OPR) for the facility lead-based paint program in the areas under the 411th BSB jurisdiction. Within the DPW organization, the Chief of Environmental Management will act as the Lead-Based Paint Program Officer, and the Chief, Operations & Maintenance will act as the Lead-Based Paint Operations Officer. Since the DPW, as the overall program director for the facility LBP program, appoints the LBPPM and LBPOO, those positions are directly accountable to him/her with respect to their duties under the LBPMP. The LBPPM and LBPOO will work closely with one another and with the Community Medical Officer and Preventative Medical Activities (PMA) in the execution of this LBPMP. With respect to lead-based paint remediation procedures, the LBPPM and LBPOO will also work closely with the design engineers. The office of the Staff Judge Advocate (OSJA), Public Affairs, CHPPM-EUROPE and the Safety Office will provide advice and support as needed and requested by the LBPPM and LBPOO.

Figures 2 and 2a are diagrams of the general lead-based paint management process for the 411th BSB. It identifies the major tasks and illustrates their interrelationships. It demonstrates the extent to which interaction between the organization and a "team" approach are important to accomplishing the tasks required for effective management of lead-based paint. In particular, good communications are critical to establishing and maintaining an up-to-date, useful database, ensuring the notifications required by regulation are made in a timely manner and providing for a safe working environment. The LBPPM is the lead individual in managing the programming for lead-based paint remediation activities and must be made aware of all scheduled lead-based paint remediation activities and scheduling changes so the lead-based paint database can be updated and its currency maintained. More detailed descriptions of the tasks summarized in Figure 2 are provided in the subsequent sections of the LBPMP. Section 2.0 of the LBPMP specifies organizational roles and responsibilities and Section 3.0 details the program to be developed and implemented by the LBPPM. Section 4.0 outlines the management activities required to initiate lead-based paint operations and personnel involved. The Appendices/Attachments are formatted to aid in easy identification of the duties to be fulfilled by the LBPPM and LBPOO and to identify various activities that must be performed within the framework of the Lead-Based Paint Management Plan.

The main focus of the lead-based paint management program is to establish efficient procedures and prioritize activities for maximum effectiveness. The LBP management program will continue to be largely reactive, but as the program becomes established, the percentage of effort that is reactive will decrease, and it should be possible to concentrate more resources on pro-active efforts to manage lead-based paint on 411th BSB facilities.

Effective management of lead-based paint in 411th BSB assets must start with the 411th BSB commander and be instilled at all levels of the chain of command. The Environmental Quality Control Committee (EQCC) will be an effective springboard to assist the LBPPM, the LBPOO, and CHPPM-EUROPE in managing the lead-based paint program.

The EQCC and its chairman shall be updated on the lead-based paint program in order that appropriate resources are made available to implement lead-based paint management activities. The LBP management program begins with (a) the identification, location and characterization of LBP in 411th BSB facilities; (b) the pursuit of appropriate maintenance, repair, encapsulation or removal activities of known LBP locations; and (c) the establishment of a periodic surveillance schedule to ensure facilities with known LBP remain in a safe condition. The lead-based paint program will be continually updated. It will provide for more accurate accounting of existing procedures and facilitate planning, implement construction, repair, and maintenance activities concerning lead-based paint. To facilitate this program, the lead-based paint survey documents shall be prepared in a Computer Aided Drafting and Design (CADD) graphics database format IAW the Hazardous Materials Management Program (HMMP), Tri-Services SDS data format version 1.6.

Branch Chiefs, Project Coordinators etc., in each work zone of the DPW Operations and Maintenance Division should verify the presence of LBP in facilities (with the information available) when scheduling work orders and job orders. The planning section should incorporate inspection of a facility for lead-based paint when planning work orders. Similarly, when DPW crews are scheduled for work at a facility known to contain lead-based paint, the work order should include a routine surveillance of the condition of the LBP, providing a relatively efficient means of periodically checking for damage. The information obtained from those inspections must be forwarded to the LBPPM for input into a facility database so the data available on LBP in facilities can be continually updated and used as a reference for future work required in any facility. This procedure will not eliminate the need for a more structured 411th BSB wide survey program, but it will improve the data available on the presence of lead-based paint in 411th BSB facilities and reduce the survey requirement.

Section 2.0 Organizational Roles and Responsibilities

2.1 General

An effective lead-based program for facilities under 411th BSB control requires the participation and interface of several organizations to ensure the health and welfare of all 411th BSB and tenant unit personnel are protected from the potentially harmful effects of LBP. HQ USAREUR will provide policy and guidance to its installations for the development of installation lead-based paint programs. At 411th BSB level, the DPW has the primary responsibility for developing and implementing the lead-based paint program. Other 411th BSB organizations must assist the DPW in identification of lead-based paint, LBP sampling programs, quality control, legal implications and interpretations, media information and response.

The LBPPM, the LBPOO, the PMA Engineer, CHPPM-EUROPE, the Safety Officer, the Community Medical Officer, the Legal Office and the Public Affairs Office form the Lead-Based Paint Management Team (LBPMT), with assistance being provided from other 411th BSB organizations as identified in Figure 1. This management team is responsible for implementing and managing the LBPMP. The management team is supported by the DPW LBP Abatement Team (LBPAT), which is responsible for executing lead-based paint remediation activities so dust particles and debris are contained and controlled. This abatement team can be comprised of in-house personnel, or contractor staff. The roles of the management team are shown in Figure 3.

The following sections detail the responsibilities of all 411th BSB-level organizations and show how they interrelate.

2.2 411th BSB Community Commander

The community commander is ultimately responsible for the activities of the DPW and will ensure compliance with the lead-based paint management requirement.

2.3 411th BSB DPW

The BSB-DPW is tasked with the primary responsibility for development and management of the 411th BSB assets lead-based paint program. The DPW has responsibility for overall program direction within 411th BSB activities, and the LBPPM is accountable to the DPW for the execution of the LBPMP. Other 411th BSB organizations have lead-based paint roles, but the DPW is the Office of Primary Responsibility (OPR).

2.4 411th BSB Environmental Management Office

This is the 411th BSB Environmental Coordinator's office. The EMO is responsible for appointing a person within the EMO to act as the LBPPM and acts as the focal point for overall responsibility of the LBPMP. The LBPPM is responsible for maintaining the lead-based paint register and a current database on the location of LBP in 411th BSB facilities. The LBPPM will notify the appropriate environmental regulatory agencies, to include the Legal Office, the Safety Office, the Public Affairs Office, CHPPM-EUROPE, the Community Medical Officer and PMA, of any known or suspected hazardous exposure to lead-based paint. Because of the environmental regulatory interface task, this office, in coordination with the Community Medical Officer and/or PMA, must be the focal point for all lead-based paint related activities occurring in facilities under 411th BSB control. Additionally, this office will coordinate closely with the Real Property Section to ensure lead-based paint locations are properly annotated in real property records.

2.5 411th BSB DPW Operations and Maintenance

The chief or deputy chief of this branch is designated as the LBPOO. The LBPOO is responsible for managing all lead-based paint containment/abatement in-house projects on 411th BSB assets. Close coordination with the LBPPM is essential to ensure environmental regulatory agencies are adequately notified and lead-based paint files are kept current.

2.6 Medical (Health & Safety, CHPPM-EUROPE, the Community Medical Officer & PMA)

When it is determined that an emergency situation exists (high blood lead levels, etc.), the CHPPM-EUROPE Lead-Based Paint Program Manager will be asked to coordinate conduct sampling and a risk assessment. For non-emergency situations, the CHPPM-EUROPE Lead-Based Paint Program Manager will provide the 411th BSB with test sampling kits which the DPW LBPPM will use to gather a paint sample with and send to a lab for analysis.

The H & S Officer, CHPPM-EUROPE, the Community Medical Officer and PMA are responsible for the health and welfare of the work force and building occupants concerning these activities. The H & S Officer, CHPPM-EUROPE, the Community Medical Officer and PMA are involved in five major efforts:

- (a) Follow-up survey and sampling to determine if LBP is present and assessment of health hazards.
- (b) Develop a Childhood Lead Poisoning Prevention Program (CLPP) as per PWTB 420-70-2.
- (c) Monitoring in-house lead-based paint abatement team exposure and releases of dust or debris in the surrounding environment.
- (d) Final inspection of the job site to verify adequate clean-up has been accomplished and clearance levels for re-occupancy are achieved.
- (e) Development of health education and medical monitoring programs.

The development of health education and medical monitoring programs entails the establishment of programs to inform members of the community as regards the dangers of exposure to lead contamination (together with PAO) and to set up a monitoring program for members of the community that have been exposed to lead contamination. The monitoring program shall consist of determining the source of contamination, lowering lead blood levels, follow up blood tests and maintaining medical records.

When requested, the H & S Officer, CHPPM-EUROPE, the Community Medical Officer and PMA will act as consultants, where necessary, on any site evaluation involving maintenance, repair, or minor construction could result in exposure to lead-based paint.

Safety Office Personnel will refer any known or suspected lead-based paint related problems detected during safety inspections or observations to the LBPPM, who will in turn notify the Community Medical Officer and PMA, if necessary.

2.7 Environmental Legal Advisor (OSJA, HQ, V Corps)

The Environmental Legal Advisor, will be the OSJA, HQ, V Corps, Bldg. 3736, who is responsible for reviewing all activities involving lead-based paint to ensure regulatory compliance and to advise on legal conflicts. The Environmental Legal Advisor will coordinate on the following:

- Proposed 411th BSB actions for compliance with the German FGS (eventually), 29 and 40 CFR series requirements, the U.S. Army and host nation laws, guidelines and regulations, as applicable.
- Applications for any permits or licenses required for disposing of lead-based paint.
- All plans and programs have been developed to meet environmental protection laws.
- Criteria, standards, performance specifications, and compliance schedules developed to ensure compliance with applicable laws regarding lead-based paint.
- All requests for monitoring data by US federal and local environmental agencies in order to determine whether the data is required by applicable law or regulation.
- All inspections by German federal and local regulatory agencies and the results of these inspections.
- Any notice of violation served upon the 411th BSB facility for violations of Army, German federal or local laws.
- All known or suspected hazardous exposure to lead-based paint.
- Legal coordination is required prior to installation commander issuing any "must remove" mandates.

2.8 Public Affairs Office (PAO)

The PAO is responsible for interfacing with the media and general public concerning any lead-based paint related incident. As appropriate, publish information on lead-based paint for community personnel. This office will work with the LBPPM and LBPMPT to develop timely and appropriate articles on the 411th BSB lead-based paint program.

Lead-based paint potentially affects all personnel who use 411th BSB facilities containing LBP. Therefore, the general 411th BSB population needs to have a good understanding of the potential lead-based paint health hazards. A good understanding involves having accurate information, so people neither underestimate nor overestimate the health risk. General 411th BSB knowledge and awareness of lead-based paint concerns can be improved through articles in the Heidelberg Military Community newspaper, brochures, and proper labeling. The LBPPM needs to identify areas where LBP hazards exist and ensure these areas are appropriately marked. The OPR for disseminating general information to the 411th BSB population is the PAO. Articles can be published in the local/Heidelberg Military Community newspaper periodically to educate 411th BSB personnel. Topics may include completion of the LBPMP, the initiation of a facilities survey, announcement of a major removal project, or a warning to personnel to avoid a controlled area where construction activities involve lead-based paint. Articles providing 411th BSB information about lead-based paint and applicable regulations should also be published. ACS is responsible for compiling and distributing orientation packages to newcomers that should include the USAREUR brochure entitled „Protect Your Family from Lead in Your Home“ providing an overview of what lead-based paint is, where it is found, its health risks, and procedures to preclude exposure. It should also be distributed to all facility and 411th BSB organizations so it can be made available to their personnel.

2.9 Tenant & Activity Commanders or Managers

Tenant and Activity Commanders or Managers occupying 411th BSB facilities are required to know if and where lead based paint has been identified in their facilities. Survey data is available from the Environmental Management Office for all housing, youth occupied and many administrative facilities. Where lead based paint has been identified, Tenant and Activity Commanders or Managers are responsible for reporting any damage to or deteriorated condition of known lead based paint to the Environmental Management Office.

Section 3.0 Lead-Based Paint Program Development

3.1 Survey and Inventory

Managing lead-based paint within in the 411th BSB requires identifying locations that have LBP, ascertaining its condition, determining whether it presents a health hazard, defining appropriate treatment, and ensuring priority attention is given to areas that pose the greatest hazard. Risk assessment and paint inspection are strategies for identifying lead hazards in target housing and child-occupied facilities before these hazards actually cause lead poisoning in a child. Preventing lead hazards is cost effective for all property owners, especially in light of the substantial medical, legal and relocation expenses associated with the care of a child with an elevated blood lead level. The most cost effective method for identifying LBP locations and ascertaining their condition is through a facilities survey IAW HUD guidelines. A survey of 411th BSB assets prioritized as follows:

1. Medical Facilities & Equipment and DODD Schools
2. Family Housing
3. Child Care Facilities & Equipment
4. Administration & Commercial Bldgs. & Sport/Youth Facilities & Equipment
5. Dorms/Barracks
6. Miscellaneous Facilities

In order to ensure critical information on LBP is available as quickly as possible, a phased identification program was instituted beginning with Phase I starting October 1998.

A records search was conducted by the LBPPM and his staff to identify all facilities, based on a date of construction and other factors, that have the potential for containing lead-based paint. The LBPPM will develop and maintain a survey program to confirm the presence or absence of LBP in each facility. The survey uses either qualified government personnel, contractual agreement, or a combination of resources.

The survey includes collection of paint chip samples, dust wipes and soils samples, confirmation and quantification of lead-based paint, assessment of exposure risk, hazard ranking, and recommendation for corrective actions and in-depth documentation, including plans/drawings. All sample analysis must be conducted by an accredited laboratory; either the Army Laboratory at Mannheim, CHPPM-EUROPE, or an accredited laboratory recognized by the EPA National Lead Laboratory Accreditation Program, the American Society for Testing and Materials (ASTM) or German equivalent.

As each facility is surveyed, various locations of LBP within the facilities are given an identification number. The type and condition of each item is noted, in particular to identify deteriorated/damaged lead-based paint in accessible locations.

Locations of LBP identified during the survey are noted on facility drawings prepared in CADD and in the building file records, as well as in the lead-based paint database. The building files are also annotated to provide information for removal of LBP as part of work orders for the facility. These documents are located and maintained by the LBPPM (EMO).

Before the survey is complete, advantage can be taken of other routine DPW work on 411th BSB facilities to accelerate the schedule and reduce the scope of the survey. The LBPPM should arrange with the LBPOO and, in turn, the planning section to have lead-based paint inventories included as part of the planning for a work order. If the planner notes potential lead-based paint in a building, or on equipment that is verified then he/she must notify the LBPPM and have the lead-based paint database updated. That location can then be omitted from the survey list.

Any facilities being programmed for contract work (e.g., repair, construction) that have not been surveyed must be visited and inspected for lead-based paint. The planner and/or the project engineer must contact, coordinate and accompany the LBPPM during the site survey.

Section 4.0 Lead-Based Paint Management Activities

The primary components of lead-based paint management are budgeting, scheduling and planning, monitoring and surveillance, notification, quality assurance, information dissemination and remediation. Each of these activities is described below.

The LBPPM cannot be effectively implemented without adequate resources. Obtaining resources to accomplish the tasks outlined herein requires submitting requirements through the annual budgeting process. The LBPPM is responsible for preparing an annual budget for lead-based paint related activities. The LBPPM will prepare a DA Form 4283, Facilities Engineering Work Request. Also, they will identify requirements in the Environmental Program Requirements (EPR). The program budget should include funds for the following activities:

- Survey of all facilities, as defined.
- Sampling equipment and supplies, as required.
- Remediation, as required.
- Training and equipment and supplies for the LBPAT, coordinated with the LBPOO.
- Incidental supplies, such as warning labels.
- Fees for certification, licenses, and disposal as needed.
- Costs for analytical services.

In addition to an annual operating budget, the LBPPM will coordinate requirements for the availability of personnel resources to conduct on-going management activities, including maintaining the management information system and making required notifications. The LBPPM should conduct annual surveillance and inspection, and properly plan work orders. To the extent practicable, appropriate lead-based paint treatment should be incorporated in programmed amounts for all work requested. Whether the work requested results in a DD Form 1391 submittal or a work order authorization, if lead-based paint repair, encapsulation or removal is required as a part of the work effort, it will include a cost estimate for treatment. A facility inspection should not be programmed before the presence or absence of lead-based paint has been confirmed through a site inspection.

4.1 Scheduling and Planning

4.1.1 Scheduling

The results of the facility survey are used to establish an orderly plan of action for lead-based paint treatment and removal. LBP (together with all identified hazardous materials) must be removed, or protected IAW the 411th BSB Hazardous Materials Management Plan (HMMP) prior to any other trade activities (i.e., Heating, Ventilation, Air Conditioning (HVAC), carpentry, masons, electricians, etc.). A tentative schedule can be constructed for near-term and long-term actions, and the building files can be updated with this information. This schedule (plan of action) will be made a part of the LBPPM and filed as an addendum to it. Imminent lead-based paint hazards should be corrected quickly and other lead-based paint work should be ranked and corrected as projects and resources become available. All engineering designers and planners should check the database and facility folders periodically to determine if relatively stable LBP can be removed economically in conjunction with other renovation or repair projects. This plan of action addendum to the LBPPM will be updated on a continual basis as new lead-based paint locations are discovered or old status is updated. The LBPPM will develop a program for scheduling lead-based paint remediation activities, based on the resources available and the hazards identified in the facilities survey. Initially, until all facilities have been surveyed, the LBPPM can expect a relatively large percentage of the resources available will be applied to immediate response actions, and routine remediation activities will be limited. After the survey has been initiated, substantial effort will be applied to remediation activities involving deteriorated lead-based paint. As hazards are contained and brought under control, more resources will be available for projects to remove lead-based paint that does not pose an immediate hazard, as well as routine surveillance and re-inspection. The LBPPM's schedule should include a realistic level of effort for work defined under each of the levels of lead-based paint ranking. The schedule should reflect long-term goals for completing lead-based paint remediation.

actions. The LBPPM should coordinate with the LBPOO in preparing the schedule to identify activities will be performed by the LBPAT and to fold in normal maintenance and repair cycles for items ranked as less urgent.

IAW HUD Guideline Chapter 5, Risk Assessment and Chapter 6, Table 6.1 Standard Reevaluation Schedule a Lead-Based Paint Resurvey must be conducted within 3 years or prior to any renovation work.

4.2 Hazard Potentials and Response Priorities

Hazard Potentials

The potential for exposure to lead hazards involves the use of the following parameters:

- Lead in paint
- Paint condition
- Location of Lead-Contaminated Paint (LCP) (interior/exterior)
- Lead in household dust
- Lead in bare soil
- Lead in water
- Presence or absence of children

The hazard potentials are:

High - A lead hazard has been identified. Lead exposure is likely and occupants are at risk.

Medium - A potential lead hazard has been identified. Lead exposure is possible and occupants could be at risk.

Low - No lead hazard has been identified. Lead exposure is unlikely and occupants are not at risk.

A variety of response options are available to control lead hazards and sources of those hazards. The selection of appropriate options depends upon the hazard potentials in paint, dust, and bare soil, as identified by risk assessment, and the urgency of implementing the response option.

The response priorities are:

Short Term - Short term actions control lead hazards between one week to three months after a high hazard potential is identified. The purpose of short term actions is to provide a lead-hazard-free environment in target and child-occupied facilities. Immediate action must be taken to abate lead hazards in occupied facilities or to place temporary barriers to prevent exposure to children under six years of age. Short term actions are intended to control actual lead hazards in paint, dust, and bare soil.

Mid Term - Mid term actions monitor and maintain a lead-hazard-free environment in target and child-occupied facilities and are normally associated with medium hazard potentials. These actions are conducted until no longer effective in preventing development of lead hazards or until it becomes economically feasible to perform abatement. Mid term actions consist of training, occupant education, interim controls, and on-going monitoring of surfaces which may deteriorate or accumulate lead dust. The condition of these lead surfaces may change from intact to damaged under any number of circumstances.

Long term - Long term actions anticipate the need for abatement of sources of lead in paint, dust, and bare soil and require long range planning, programming, and budgeting of funds. Long term actions require a continuing program of interim controls and on-going monitoring to maintain facilities in a lead-hazard-free condition until abatement projects can be implemented.

Appendices/Attachments

Lead-Based Paint Program Manager (LBPPM)

Responsibilities/Activities

The LBPPM is responsible for ensuring a records search is conducted of all facilities within the 411th BSB to identify those having a potential for containing lead-based paint. The LBPPM is also responsible for the planning and accomplishment of facility surveys and identifying appropriate management measures (i.e., maintain in place, repair, remove, etc.), and ranking remediation activities. The survey can be accomplished by in-house DPW personnel, contractor personnel, or a combination of both, depending on qualifications.

This survey will generate a database to be developed based on locations of known LBP sources. This survey is the initial step and will constantly change as new sources are found and old sources are updated and revised. The survey is actually an ongoing evaluation of locations and sources of LBP.

The LBPPM will assign an Urgency Rating to lead-based paint related problems, if necessary.

The LBPPM is responsible for maintaining the lead-based paint register and a current database on the location of LBP in 411th BSB facilities. The LBPPM will notify the appropriate environmental regulatory agencies, to include the Legal Office, the Safety Office, the Public Affairs Office, CHPPM-EUROPE, the Community Medical Officer and PMA, of any known or suspected hazardous exposure to lead-based paint. Because of the environmental regulatory interface task, this office, in coordination with CHPPM-EUROPE, the Community Medical Officer and/or PMA, must be the focal point for all lead-based paint related activities occurring in facilities under 411th BSB control. Additionally, this office will coordinate closely with the Real Property Section to ensure lead-based paint locations are properly annotated in real property records.

The LBPPM will ensure all LBP identified in facility surveys is documented in a database. This database will be available to facility engineers, engineering designers, and planners so they are aware of the presence of lead-based paint at a project site. The LBPPM is responsible for keeping the database current and complete, which makes it imperative the LBPPM and PMA coordinate their lead-based paint related activities.

The LBPPM is responsible for establishing a lead-based paint monitoring and maintenance program. The LBPOO staff (planners, maintenance personnel, etc.) will be critical in providing support for this effort. This portion of the overall lead-based paint program is designed to reduce the possibility of inadvertent exposure to LBP by maintaining a surveillance and inspection system over existing locations of LBP until ultimate removal/disposal. This program includes such items as labeling identified LBP, training facility managers to conduct surveillance of LBP in their facilities to check for deterioration, training custodial and maintenance workers, establishing special precautions before starting any maintenance, repair or construction activities and periodic surveillance by designated DPW personnel. It is imperative CHPPM-EUROPE, the Community Medical Officer and PMA assist the LBPPM in setting up special health education and medical monitoring programs in facilities where the presence of lead-based paint has been established. PAO can also be helpful in this phase of the program by publishing articles in the Heidelberg Military Community newspaper on perceived hazards from lead-based paint, actions the lead-based paint management team actually has taken to reduce the risk of exposure to lead-based paint, and long-term surveillance activities for known LBP locations.

The LBPPM is responsible for establishing appropriate training in lead-based paint identification and procedures for those personnel involved in management activities and facility managers involved in the O&M program.

The LBPPM will inform the LBPMT of all 411th BSB actions involving lead-based paint and provide immediate notification of all potential violations to the Legal Advisor.

The LBPPM will notify the appropriate environmental regulatory agencies, to include the LBPMT, of any known or suspected hazardous exposure to lead-based paint.

The LBPPM will also support the DPW in the following activities, as resources allow: walk-through surveys, sample collection of paint chips, dust wipes and soil samples (to be collected by CHPPM-EUROPE (in

emergencies), by the DPW and/or certified contractors), lead-based paint confirmation and quantification, exposure and risk assessment, hazard ranking, and recommendation for phased program corrective action.

Verify facilities are surveyed for LBP prior to renovation and/or demolition and the determination of action is noted on the work order.

Verify that a written assessment is produced prior to the demolition or renovation of a facility that involves removing or disturbing deteriorated LBP.

Verify that a construction and maintenance history summary has been provided by real property and copy is kept in the building file in the EMO office.

Verify that a copy of the written assessment is kept on file permanently.

Verify the urgency of remediation is evaluated using HUD/EPA guidelines.

Remediation Actions: (to be carried out by the LBPOO, but coordinated by the LBPPM)

Verify that, for high priority projects, remediation begins immediately.

Verify that, if permanent abatement is not possible and the room must be used, temporary measures are implemented to minimize the exposure risk to lead.

Verify, if temporary remediation is instituted, its effectiveness is demonstrated by sampling and analysis IAW HUD guidelines.

Verify that, all remediation activities are in compliance with US/HN guidelines, laws and regulations.

Quality Assurance and Quality Control Programs

The LBPPM will establish quality assurance (QA) and quality control (QC) programs for 411th BSB lead-based paint management and operations activities. The QC program will describe specific actions to be taken to ensure performance is consistent with established standards with respect to accuracy, precision, and suitability of results. It is especially important the 411th BSB ensure the LBPAT team is carrying out its responsibilities in regard to the QA/QC program.

Quality Assurance Program

The QA program is structured to ensure quality will be visible at all organizational levels and the QA will receive management attention comparable to that given to cost, schedule, and performance. The QA program is designed to accomplish the following objectives:

- Maintain organization elements staffed by technically competent personnel.
- Provide indoctrination and training of personnel performing lead-based paint related activities to achieve and maintain suitable proficiency.
- Develop and maintain specific plans and procedures to prevent conditions adverse to quality and maintain all records, logs, operating procedures, project plans and analytical results in a retrievable fashion from secured storage.

The LBPPM will ensure all environmental regulatory requirements are satisfied. The LBPOO will ensure the LBPAT complies with all regulations and procedures regarding both work accomplishment and proper disposal handling.

Quality Control Program

Control of the work activities shall be implemented and maintained throughout the life of programs and projects to meet US/HN requirements while minimizing lead exposure to all applicable personnel. Quality control activities

are the responsibility of all the Lead-Based Paint Management Team members. The Safety Officer, CHPPM-EUROPE, the Community Medical Officer and PMA will ensure proper procedures are developed to safeguard the health of all personnel during the handling of lead-based paint as a hazardous substance.

Duplicate analyses may also be sent to a certified laboratory to confirm a given result. Additionally, a second laboratory may be procured to randomly spot check the accuracy of the results. Secondly, the LBPPM and/or the LBPOO will review activities on the job site. This includes either collecting samples or reviewing contractor collection procedures, clothing requirements, equipment requirements and disposal procedures to ensure they comply with German FGS provisions. The LBPPM must review, coordinate and approve (in case of contractor having clearance sampling accomplished) all sample results and is the final approval authority for re-occupancy of a site after remediation. The LBPAT chief or the construction management representative is the primary QC monitor on-site and will ensure remediation activities are being carried out as provided in the LBMP and US/HN statutory regulations.

Quality Assurance Audits

Ensuring quality is attained will be the responsibility of all personnel involved in managing and handling lead-based paint. The responsibilities of assigned personnel will be the following:

- Quality will be achieved and maintained by all personnel who are assigned responsibility to perform the work.
- Quality performance will be verified by persons or organizations not directly responsible to perform the work.

The internal and external organizational interfaces will be defined and understood by all concerned.

LBPOO Lead-Based Paint Operations Officer**Responsibilities/Activities**

The Chief, Operations and Maintenance (O&M) Division is designated as the LBPOO. The LBPOO is responsible for managing all lead-based paint containment/abatement in-house projects on 411th BSB assets. Close coordination with the LBPPM is essential to ensure environmental regulatory agencies are adequately notified and lead-based paint files are kept current.

The LBPOO establishes the Lead-Based Paint Abatement Team (LBPAT) to remove/abate lead-based paint on planned projects and on short-notice emergencies. This team can be comprised of in-house or contractor staff. Additionally, the LBPOO is responsible for training and equipping the team and coordinating budget items with the LBPPM.

The LBPOO, having responsibility for the schedulers and work planners, will establish division/branch procedures to perform a thorough check of any work to be accomplished in order to determine whether lead-based paint is present and whether personnel will be exposed.

The LBPOO will establish procedures so adequate and timely surveillance and inspections are performed by planners and craftsmen to examine LBP that has been left in place for damage or deterioration.

The LBPOO will ensure the LBPMT is informed in advance of all lead-based paint remediation projects in accordance with the regulations (the notification period will be designated by the LBPPM). Scheduling changes made after the notification has been completed will also be made known to the LBPPM and the LBPMT.

The LBPOO coordinates on all in-house and contractor activities, including design review, remediation design, health and safety plans, work plans, air monitoring programs, where applicable, and construction supervision. All activities within the 411th BSB facilities shall coordinate their operations and maintenance procedures with the LBPOO/LBPPM. These activities include planned repair/renovation, upgrades to utilities, lead-based paint removal and disposal. These plans shall be IAW US/HN/FGS, and submitted to the LBPOO/LBPPM for review/approval prior to work starting.

All in-house and contractor operations and maintenance work and/or remediation within the 411th BSB shall be executed by properly trained and equipped personnel only IAW US/HN guidelines and all other applicable laws and regulations! Remediation is defined as removal, encapsulation, or enclosure of LBP. Proof of certification shall be maintained on site and copies must be submitted to the LBPOO/LBPPM prior to work begin.

The LBPOO will ensure properly containerized lead-based paint and contaminated waste stored in a secure area is disposed of in accordance with applicable regulations.

The LBPOO is also required to maintain the logs in his/her own permanent files. The LBPPM will use the logs to update the facilities database and then file the logs in the building file.

Data Management (Inventory)

LBP Monitoring and Surveillance

All locations with deteriorated LBP must be monitored on an on-going basis to ensure they do not pose a risk of exposure to 411th BSB personnel. The LBPPM will determine the requirement for taking air samples and will conduct monitoring for lead when there is a high potential for dust and debris release from deteriorating lead-based paint. Each occupied facility in which LBP is identified will be evaluated using HUD guidelines as a part of the survey. The monitoring will be accomplished by a certified laboratory or monitoring agency. Child-care facilities, schools, family housing, recreation facilities and medical facilities containing deteriorated lead-based paint will be monitored according to US/HN requirements until the lead-based paint has been removed and the facility cleared. The LBPPM will work with the LBPOO to institute a program of periodic surveillance to check the condition of LBP and identify damage. A surveillance of all LBP locations based on Environmental Compliance Assessment System (ECAS) requirements should be conducted consistent with German requirements and surveillance should be scheduled as a routine part of DPW activities. The date of the next scheduled surveillance should be included in the lead-based paint facilities database. To the extent practicable, surveillance should be scheduled in conjunction with other facility visits conducted by planners, design engineers, or shop personnel. When DPW personnel are able to check the condition of LBP as part of a facility visit, they will report the results of the surveillance to the LBPPM, who re-schedules the next surveillance at that location dependent on the risk assessment. This procedure can effectively reduce the requirement for scheduling site visits specifically for surveillance of LBP and at the same time ensure on-going monitoring of potential lead-based paint hazards. Re-inspections will be conducted in the same manner as the initial survey.

Lead-Based Paint Register

The heart of the management plan of action is a management information system that contains current information on the location and condition of all LBP at locations under the jurisdiction of the 411th BSB and records all lead-based paint related activities. The system comprises a Lead-Based Paint Register consisting of three primary components:

- (a) A computerized facilities database, as prescribed and submitted in the HMMP lead-based paint survey which was comprised of a MicroStation 32- CADD data format and an MS-DOS/MS -Access/Excel database.
- (b) A log of lead-based paint related activities.
- (c) A file of lead-based paint related documents, correspondence, and other materials.

Facilities Database

The purpose of the computerized database is to compile comprehensive information about LBP in a form that is readily accessible and easily updated. The database includes information on the location and condition of all LBP by building. It is used to record activities performed, including surveys, inspections, maintenance, repair, encapsulation, enclosure and removal, as well as to indicate priorities for remediation. It is the central database for information on lead-based paint and should be consulted by DPW personnel for all work that is to be performed in a building. The LBPPM's staff will be the collection agency for information input and will update the database daily, or as needed to depict the actual situation. All DPW sections such as planners, schedulers, craftsmen, and engineering designers will coordinate lead-based paint activities with the LBPPM for input to the database. The database will include every facility and building within the 411th BSB that has been surveyed and contain the following information (items provided in the Phase I lead-based paint survey are marked with a (●); additional items to be provided by the DPW are marked with a (◆) :

- | | |
|----------------------------|---|
| ● Inst. Code | Installation Code |
| ● Fac. No. | Facility/Building Number |
| ● Description | Utilization |
| ● EPO Name | Environmental Point Of Contact |
| ● EPO Tel. No. | Environmental Point Of Contact Telephone No. |
| ● GRD | Grade/Rank |
| ● Name /L/F/M | Building Custodian |
| ● Duty Phone | Building Custodian Duty Telephone No. |
| ● Using Org. | Using Organization |
| ● Survey or Sample Date | Date of survey (NSP if No Survey Performed) |
| ● Time of Survey | |
| ● Next Inspection | Next Inspection/Re-inspection Date, As Required |
| ● Year Built | Year The Building Was Built |
| ● Building Area | Square Feet, Square Meters |
| ● Sample No. | Sample Number |
| ● Location/Level | (where sample was taken) |
| ● Amount of lead | Amount of lead in % |
| ● Type Material | Description of Material sampled |
| ● UR | Urgency Rating (numerical) |
| ● Building Photo | |
| ● Material/Sample Photo | Typicals |
| ● Comments/Recommendations | Comments/Recommendations and Further Actions Required |
- ◆ Date of next survey (as required)
- ◆ Type of treatment required, including:
- Maintenance.
 - Repair.
 - Encapsulation.
 - Enclosure.
 - Removal.
- ◆ Work order number for treatment request.
- ◆ Date treatment completed.

The LBPPM's staff will be the collection agency for information on lead-based paint activities. All DPW sections such as planners, zone foremen, craftsmen, engineering designers and LBPMT members will coordinate all information on lead-based paint locations and work with the LBPPM for input to the database. Responsibility for maintaining and updating the database will be assigned to the LBPPM. The database will be updated each time a survey, inspection, or surveillance is performed; a building with LBP is worked on; or sampling is conducted. The priority assigned each item should be updated to reflect any remediation performed.

Lead-Based Paint Activities Log

All activities related to lead-based paint management and operations within the 411th BSB will be recorded in a monthly log. The master log will be maintained by the LBPPM. It will be a compilation of weekly activity logs kept by the LBPOO who will submit copies of the LBPAT logs to the LBPPM on a monthly basis. The LBPOO is also required to maintain the logs in his/her own permanent files. The LBPPM will use the logs to update the facilities database and then file the logs in the building file.

The lead-based paint activities log will contain the following information:

- Date.
- Facility number.
- Activity performed.
- Location (within facility).
- Personnel/Contractor involved in activity.
- Short description of results.
- Follow-up activity required.
- Name of person making entry.

All surveys, surveillance, treatment, and sampling will be entered into the log and database. Incidental inspections to identify the presence of lead-based paint as part of planning for a work order, job order, or contract will also be entered into the log.

Lead-Based Paint File

The LBPPM will maintain a permanent file of detailed documentation concerning lead-based paint activities. No data/documents containing lead-based paint related information will be destroyed. All lead-based paint related information/data must be kept indefinitely.

The file will include the following:

- Actual survey forms completed during facility inventories and re-inspections.
- Results of all sampling and testing performed, including sampling and air monitoring.
- Records of all lead-related medical examinations will be kept by (the Community Medical Officer, or PMA). Fit testing records for each LBPAT member and site managers will be kept by PMA and copies shall be forwarded to the LBPMT and the Works Council.
- Certifications of DPW and Operations & Maintenance Division personnel conducting remediation work.
- Description of all lead-based paint remediation activities performed, including dates, type of treatment, personnel involved, quantity of any lead-based paint removed, disposal method and location, and results of post-treatment inspection/sampling.
- Copies of notification letters sent to 26th ASG, HQ USAREUR and/or host nation regulatory agencies as applicable.
- Employee training records.
- Documentation and correspondence related to disposal (e.g., landfill receipts).
- Copies of notifications, inspections, and industrial hygiene reports from contractors who have performed work involving LBP.
- Copies of US federal, DOD, DOA, Army regulations, and German equivalents as referenced in the AR 200-1, USAREUR 200-1 and HUD concerning lead-based paint.
- Lead-based paint activities log.

Other relevant studies, reports and information should be kept in the file. Regulatory requirements state lead-based paint file information be maintained indefinitely and marked accordingly.

Risk Assessment

Risk assessments are to follow HUD Guidelines, Chapter 5 and PWTB 420-70-2.

As LBP is identified in 411th BSB facilities, it is also characterized with respect to color, type, surface condition, exposure to damage, room affected (occupants) and location (see survey questionnaires). This characterization is used as input for ranking management/remediation activities.

The following table has been taken from HUD Guidelines, Chapter 5, page 34:

Table 5.7 Hazard Levels for Lead-Based Paint Risk Assessments

Media	Level	
Deteriorated paint (single-surface)	5,000 µg/g or 1 mg/cm ²	
Deteriorated paint (composite)	5,000 µg/g or 1 mg/cm ²	
	Number of subsamples	
Dust (wipe sampling only) (includes both single-surface and composite)	Risk assessment	Risk assessment screen,(dwellings in good condition only)
Carpeted floors*	100 µg/ft ²	50µg/ft ²
Hard floors*	100 µg/ft ²	50µg/ft ²
Interior window sills	500 µg/ft ²	250µg/ft ²
Window troughs	800 µg/ft ²	400 µg/ft ²
Bare soil (dwelling perimeter and yard)	2,000 µg/g	
Bare soil (small high-contact areas, such as sandboxes and gardens)	400 µg/g	
Playground equipment	100 µg/ft ²	
Water (optional)-first draw	15 ppb (µg/L)	

* Whenever possible sample hard floors, not carpets.

Remediation measures may involve Removal, Enclosure or Encapsulation.

Risk assessment and paint inspection are strategies for identifying lead hazards in target housing and child-occupied facilities before these hazards actually cause lead poisoning in a child. Preventing lead hazards is cost effective for all property owners, especially in light of the substantial medical, legal and relocation expenses associated with the care of a child with an elevated blood lead level.

PAINT INSPECTIONS

Paint inspections follow statistical sampling procedures to determine the presence of lead-based paint on similar building components. Inspection results enable the management of all lead-based paint, since the exact locations of the lead-based paint have been identified. Lead-based paint inspections can be performed by either a certified inspector or a certified risk assessor.

All similar components are assumed to contain LBP if 15 percent or more of the tested components contain paint at or above the HUD standard. If paint inspection results determine that no component contains lead at or above the HUD standard, then all similar components are considered to be negative (not LBP). Note that lead-contaminated paint may still be present and that hazardous levels of lead-contaminated household dust and bare soil may be generated during abatement activities, renovation and remodeling, or other disturbances of painted surfaces.

RISK ASSESSMENTS

Risk assessments determine the presence or absence of lead hazards and suggest appropriate hazard control measures. They can be performed only by certified risk assessors.

In some cases, the risk assessor will provide recommendations beyond the basic lead hazard control options. For example, if lead-contaminated paint will remain in a dwelling after present hazards are corrected, the risk assessor will provide information on how to keep that paint in a non-hazardous condition.

Risk assessments do not simply identify lead-contaminated paint, but lead hazards. Risk assessments go beyond simply assessing the condition of paint, and take into account both resident and owner use patterns and management/maintenance practices that will affect that paint. Risk assessments also identify other potential sources of lead hazards, such as dust and bare soil. By considering all hazards and examining resident and owner practices, a risk assessor determines appropriate ways to control hazards and to modify management practices so that the chance of hazards recurring is reduced.

In dwellings in relatively good condition where the probability of finding lead hazards is low, a full risk assessment may be unnecessary. To avoid the costs of a full risk assessment, a lead hazard screen risk assessment may be conducted. A screen risk assessment employs more limited sampling and more sensitive hazard identification criteria. If a screen indicates that lead hazards may be present, then a full risk assessment performed. Because lead hazard screen risk assessments employ more stringent evaluation criteria to act as a negative screen, they are only cost effective for dwellings in good condition. Lead hazard screen risk assessments should not be used in buildings in poor conditions, since a full risk assessment will usually be needed. This is especially true of structures built before 1960.

The ultimate goal of any risk assessment is to use the data gathered from the questionnaires and interviews, the visual inspection, and the environmental sampling to determine whether any lead-based paint hazards are present. If lead hazards are found, the risk assessor will also identify acceptable options for controlling the hazards in each property. These options should allow the property owner to make an informed decision about what actions should be taken to protect the health of current and future occupants. The risk assessor's recommendation could include hazard control measures to correct current lead-based paint hazards and or new property management and maintenance policies designed to prevent hazards from occurring or recurring.

Lead-based paint found in 411th BSB facilities must be ranked to facilitate management and scheduling of remediation projects. High priority projects (I) identified by the LBPPM will be coordinated with the LBPOO to execute remediation. The LBPPM and LBPOO will determine if LBP remediation is within the scope of in-house work force. If remediation is beyond the scope of in-house forces, the LBPPM will pursue contract remediation through the 411th BSB and USAREUR Contracting. Items ranked (II) are low priority and can be managed in place with resurveys scheduled every 2-3 years as per HUD Guidelines, Chapter 6, Table 6.1 to ensure the condition of the ACM has not deteriorated. If buildings scheduled for renovation have not been surveyed for LBP, they must be sampled for LBP prior to the commencement of design activities.

Priority Ratings I and II given in the 411th BSB Lead-Based Paint survey results are based on HUD Guidelines for evaluation of LBP in buildings. The method is based on the action levels found above in Table 5.7. and applying sample data (paint chip, dust wipe or soil) and facility utilization. Where results are above action levels, which yields a number (I) indicating the urgency or priority of lead-based paint remediation is high, an immediate emergency response action is required. Examples of responses would be removing dust with a HEPA vacuum, wet wiping, repainting (encapsulation), area closure or remediation on a small scale. Each emergency response action will be determined based on the priority rating and guidance from the Community Medical Officer.

Regardless of the rating of I or II, materials and areas containing LBP should be handled with great care due to associated potential risk to health and the liability when the US government exposes personnel and or contractors to this type of hazardous material.

Scheduling and Work Classification

LBP Removal Requirements

Abatement measures may be one of the three recognized methods of remediation.

Method 1- Removal of the LBP

Method 2- Enclosure of the LBP

Method 3- Encapsulation of the LBP

Verify that, before renovating or demolishing any facility or any part of a facility in which LBP is found, the installation removes all LBP.

Scheduling of on-going lead-based paint remediation activities will depend on the classification of the work to be performed and the resources available within each classification. In buildings where deteriorated lead-based paint containing materials have been identified and have received a Priority Rating of I and where insufficient funds are available, those areas will be closed off to personnel until the area has been remediated. Samples with negative results require no further attention and may be completed as planned.

Remediation and Remediation Supervision

At the time of the preparation of this management plan, lead-based paint was not addressed in the GFGS. For all remediation work as applies to lead-based paint, GFGS Section 15, Asbestos, applies for PPE, negative pressure, containment barriers, decontamination units and dust minimization until superseded.

Site managers must be certified and shall be selected by the COR with input from the LBPPM. Site managers will maintain daily logs on-site. Qualified site/project managers will also be required to maintain the following documents in the event of remediation activities: minutes of meetings, site inspection (prior to work begin), work/abatement area inspection (prior to work begin), work/abatement area inspection (for air testing). [See attachments A, B, & C and D.]

All in-house and contractor remediation work within the 411th BSB shall be executed by properly trained and equipped personnel only! *Remediation is defined as removal, encapsulation or enclosure of LBP.* Proof of certification shall be maintained on-site and copies must be submitted to the LBPOO/LBPPM prior to the commencement of work.

The LBPOO/LBPPM shall set procedures for waste management within the 411th BSB, their facilities and operations. The waste management documentation shall include certification of the transportation firm, landfill or temporary storage facility authorization/certification, proof of delivery to the landfill „Entsorgungsnachweis“. Copies of these documents shall be submitted to the LBPOO/LBPPM.

Contractor Notification Procedures

For projects completed by contract, compliance with applicable US/HN guidelines, laws and regulations is the responsibility of the contractor. Contractors are responsible for providing notification and project information directly to the regulatory agencies as applicable. They are also responsible for the occupational health protection of contract personnel under 29 CFR 1926, Vol.58 and for complete control to include monitoring of lead dust released during removal. Gewerbeaufsichtsamt (GA) and PMA compliance inspectors may periodically check contractor compliance. They will normally check in with the 411th BSB Safety Office, who will contact the contract inspectors, before arriving on-site. However, this is usually done on very short notice. If appropriate, CHPPM-EUROPE will also be contacted to take samples as a verification procedure. Solicitation documents for any maintenance, repair, improvement and demolition work must identify all hazardous materials located on the job site.

Work Plan (GFGS 15-18a)

Verify a work plan is established before the start of work for the demolition of structural facilities and before the remediation of LBP from buildings, soil and equipment.

Verify the plan describes the measures required for the protection of workers at the workplace, building occupants and IAW US/HN emissions standards.

Verify it is assured LBP is removed and disposed of before the actual renovation or demolition activities are started, to the extent technically possible and without posing hazards to humans or the environment.

Contractor Requirements (GFGS 15-18d)

Verify companies hired to remediate LBP are familiar with the potential hazards and the required protective measures and have access to the necessary equipment and instruments.

Verify the installation has a process in place to ensure the companies hired to remediate LBP meet US/HN requirements.

Worker Training (GFGS 15-18g)

Verify all workers are trained prior to the remediation and have received certification.

Verify monitoring programs are in place during lead-based paint remediation to document exposure levels.

Verify all workers involved in remediation work use properly fitted respiratory protection and PPE.

Personal Protective Equipment

Verify the employer determines what PPE is necessary before the work commences.

Verify the employer provides PPE suitable for the substances to which the employee may be exposed.

Verify the employer maintains the PPE in a useful and clean condition.

Preparation of Containment Area (GFGS 15-18g)

Verify the work area is partitioned off from the rest of the room and is air-tight.

Verify access is gained to the work area via a multiple stage decontamination unit, or overlapping, plastic sheeting.

(NOTE: Workers should not leave the area before they complete the preparation of the containment area).

Verify, to the extent possible, working surfaces are wetted.

Verify dust that is created is vacuumed immediately at the point of generation using a type-certified category K1 device preceded by a built-in C-filter.

Verify partitions are dismantled only after the following:

- completion of work activities
- a careful cleaning, and
- if necessary, final binding of the remaining airborne residual dust
- sufficient air exchange (30 times).

Work Restrictions (GFGS 15-18j)

Verify no employee is assigned to work longer than 8 h/day or more than 40 h/wk.

Verify, with four-shift operations, no employee is assigned to work more than 42 h/wk on average over 4 successive weeks.

(NOTE: These restrictions do not apply if investigations have concluded the lead concentrations at the workplace are under 50µg/m³ (57 FR 26001).

LBP Removal (GFGS 15-18k)

Verify no one works on lead-based paint with tools that remove the product surface by sanding, high-pressure cleaning, or scraping (dust minimization).

Verify lead-based paint products that can be vacuumed (e.g., dust and small amounts of debris) are separated from the wall, ceiling, etc., as a rule in a wet condition, and vacuumed directly into a dust-tight container.

Verify lead-based paint products that cannot be vacuumed are removed, as a rule in a wet condition, by non-destructive procedures where possible, and placed in sealed containers.

LBP Encapsulation (GFGS 15-18l)

Verify the product to be encapsulated has sufficient transverse tensile and de-lamination strength to ensure the encapsulation will succeed and be durable.

Verify lead-based paint products are encapsulated, dust-tight, by bridging encapsulation.

Verify only those encapsulates are used that have a test certificate from an official materials testing laboratory.

(NOTE: Of particular concern are dust-tight sealing properties, adhesion, and durability).

(NOTE: If a test certificate has been issued for penetrating and bridging encapsulants of plastics, it may be assumed the original fire protection properties of the structural component will not be affected to an unacceptable degree by such encapsulation).

LBP Enclosure (GFGS 15-18m)

Verify that, if the lead-based paint containment (enclosure) method is used, a dust-tight barrier is constructed between the lead-based paint product and the room by means of additional structural components.

Verify particular care is taken to ensure joints will remain dust-tight permanently.

Technical Safety Measures (GFGS 15-15a - 15-15i)

Verify the installation develops work procedures so, to the extent possible by using the best, cost-effective, and available technology, lead-based paint dust cannot be released.

Verify, if the release of lead-based paint dust cannot be prevented, the dust is completely collected at the point of generation, to the extent this is possible using the best, cost-effective, and available technology.

Verify that, if complete collection of the lead dust is not possible, ventilation measures using the best, cost-effective, and available technology are implemented.

Verify ventilated air is handled or cleaned so lead-based paint dust cannot enter the breathing air of other workers.

Verify the concentration of lead dust in the air discharged to the atmosphere does not exceed 50 µg/m³.

Verify exhausted air is cleaned by means of a suitable dust separator.

Verify quantity of air returned to the room by the dust-collection equipment does not exceed 10 percent of the fresh air supplied to the room.

Verify that, if the air from the dust collectors will be re-circulated in the work rooms, the concentration of lead-based paint dust in the re-circulated air does not exceed 50 µg/m³.

NOTE: If the elimination of lead dust can only be accomplished with mobile equipment, then by way of exception, filtered exhaust air may be returned to the work area for the following activities:

- abatement activities on construction materials and installations, machines, or equipment in enclosed rooms, if these activities are on a small scale.

Exhaust and Ventilation Systems (GFGS 15-18n)

Verify air from the work area is exhausted to the atmosphere only in a controlled manner using mechanical ventilation systems.

Verify that, if the containment area cannot be constructed dust-tight, it is kept permanently under negative pressure.

Verify the installation maintains records demonstrate negative pressure has been maintained throughout the duration of the project.

Decontamination Units (GFGS 15-18o)

Verify entrance to and exit from remediation work areas is accomplished through decontamination units.

(NOTE: Decontamination units are not required in cases of minor work, provided persons and equipment do not leave the work area without being decontaminated and do not leave before the completion of the abatement work).

Negative Pressure Units (GFGS 15-18p)

Verify the entire vacuum system operates under negative pressure conditions during vacuuming.

Verify ventilated air is exhausted to the atmosphere across suitable filters.

Work Area Decontamination (GFGS 15-18q)

Verify that, if the remediation work has been carried out inside a containment area, the following tasks are carried out in the order in which they are listed:

- cleaning of all surfaces inside the containment area (e.g., by vacuuming).
- encapsulation of residual dust on all surfaces in the containment area.
- measurement of the airborne lead concentration (in the case of major abatement work), before removal of the containment barrier and decontamination units (Close-out Air Samples).
- demolition of the containment barrier.
- final inspection.

Air Monitoring Program (GFGS 15-18r and 15-18s)

Verify air and dust wipe samples are taken upon completion of the remediation work, but before resuming occupancy of the rooms.

Verify the samples are taken in location primarily occupied by persons during the typical use of the room, or where a high lead dust concentration is expected.

Verify normal operations are simulated.

Verify the worst conditions may occur during real occupancy are also taken into account.

Verify sampling is performed only by certified and authorized laboratories guarantee proper performance of the measurements.

Verify the installation ensures sampling is performed in accordance with the requirements of US/HN regulations.

Removal of Protective Equipment (GFGS 15-19)

Verify established protective measures are removed only when the handling of lead-based paint and other substances containing lead has been completed.

Verify that, for extensive projects (e.g., a major remediation), the protective measures are removed only when:

- it can be demonstrated via visual inspection of the abatement area there are no visible particles containing lead-based paint remaining in the abatement area.

Verify negative air pressure is not maintained in the test area during the close-out monitoring. .

Verify appropriate monitoring of the rooms adjacent to the containment area is conducted, if necessary.

Note. The following attachments A, B, C and D are also provided as separate MS-Excel files for project and site managers utilization. The data can be added to an existing database for project QA/QC.

Stationary Ventilation Systems (GFGS 15-15j)

(NOTE: The ventilating system is considered adequate when it is in keeping with the latest technological development and is constructed in such a way the required lead dust concentration limits are not exceeded).

Verify that, in addition to being adequate in accordance with the above note, the following criterion are met:

- fresh air is used for ventilating purposes
- the fresh air is taken from the outside atmosphere, or if impossible, from rooms where the air is uncontaminated and are connected directly to the outside atmosphere
- the lead concentration in the returned air does not exceed 50 µg/m³
- a room being ventilated by a fresh inlet air stream has an air exchange equal to one room volume (in m³) per hour
- the dust concentration of the returned air does not exceed 50 µg/m³
- air handling systems (especially the separation system) are serviced regularly

Mobile Dust Filters and Industrial Vacuum Cleaners (GFGS 15-15b (2) and 15-15i, 15-15k)

Verify mobile dust filters and industrial vacuum cleaners used in accordance with the provisions of GFGS 15-5b (2), 15-5i and 15-15k meet the following requirements:

- the pass-through rate of the filter material or the combination of filters does not exceed 50 µg/m³
- the equipment is approved by the Trades Association (Berufsgenossenschaft) via type-certification or by competent authorities.

(NOTE: Experience has shown the required performance is achieved with equipment of Category K1 preceded by a built-in C-filter [type-certification per ZH-1-1487 in combination with the corresponding instructions for testing, or per DIN VDE 0700, part 205]. For small units with a capacity up to 1 kW, the Category K1 device with a single stage filter is sufficient).

Air Cleaning System Maintenance (GFGS 15-15m)

Verify the air cleaning system (vacuum filter unit and units used to maintain negative air pressure) are maintained, at least as minimum once per year, or sooner, if needed.

Employee Exposure (GFGS 15-15n)

Verify employers avoid exposing their employees to carcinogenic hazardous substances at the same time as lead-based paint.

Electric Motors (GFGS 15-15o)

Verify electric motors are used whenever possible to power equipment.

Verify that, if diesel motors are used, emissions are minimized as far as possible by continuous maintenance and filtering of exhaust gas.

Water Handling Components (GFGS 15-15p)

Verify feed components (such as nozzles) for wetting liquids are designed to deliver an adequate quantity of liquid at the location where the dust is produced.

Lead-Based Paint ERA Emergency Response Actions**Step 1. Area / Room Closure / Access Restriction**

All contaminated rooms / areas should be cleaned where possible, or closed and access limited to trained and properly protected staff until remediation is possible. To reduce liability to the US government limited access applies to all personnel whether US or HN due to various reasons:

- See legal requirements
- Permissible Exposure Level (PEL) for lead blood levels
- Risk of secondary contamination to other areas

Step 2. Protect LBP and Label Material/Area

As part of the program to protect building occupants and workers, paint identified as lead-based paint must be properly marked as LBP. Further care must be taken to protect the materials until final remediation.

In-House Remediation Activities

The US government could apply the following program to:

- Reduce exposure risk to all personnel
- Reduce LBP related costs to a minimum
- Release of contaminated areas / rooms

The civilian labor / work force within the DPW could provide in-house small scale remediation and emergency response action services. These activities should be limited to non-removal methods, i.e. encapsulation and enclosure of deteriorated LBP.

Personnel

- Medical monitoring
- Training of personnel (analog to the TRGS 519 & 555)
- Respiratory Protection and Fit Testing
- Work Plan and Health & Safety Plan coordinated with the Works Council and local authorities for approval
- On-site instruction and supervision

Equipment

- Personal Protective Equipment
- HEPA Vacuum and Decontamination Equipment / Materials and Airless Spray Unit

1. Activities would be limited to small scale removal of deteriorated LBP, waste preparation, prior to landfilling through local authorities, minor / small scale remediation such as enclosures and encapsulation of LBP, decontamination of work area and clean-up.
2. Site / Area Preparation to include items such as critical barriers and air locks.
3. Area and room decontamination would consist of HEPA vacuum and wet wipe.
4. Equipment and areas decontamination should be inspected prior to release.
5. Air monitoring program, where required

Training

Anyone responsible for managing, planning, designing, inspecting, treating, removing, or supervising the remediation, treatment or removal of lead-based paint requires training IAW US/HN requirements. This can be done by attending EPA accredited training courses/seminars. The LBPPM is responsible for identifying appropriate training courses for each person conducting lead-based paint related work. Five types of training courses are available:

- Inspections and survey 3 days; 1/2 day annual refresher
- Planner 2 days; 1 day annual refresher
- Project Designer 3 days; 1 day annual refresher
- Supervisory 5 days; 1 day annual refresher
- Craftsmen (worker) 4 days; 1 day annual refresher

Figure 4 indicates training requirements for personnel with lead-based paint related responsibilities.

- Awareness training should be provided by the LBPPM to personnel who have a role in lead-based paint management and do not require formal EPA-approved training, ensuring that all LBPMT members, at a minimum, have attended.
- Supervisory training to the LBPPM, LBPOO, LBPAT leaders and PMA/ICH
- Inspection and survey training to the CHPPM-EUROPE staff who will be conducting surveys
- Craftsmen training to all LBPAT members
- Design training for design engineers
- Worker training and for all contractor remediation personnel and TRGS 519 certification for at least two (2) site managers

The LBPPM and LBPOO should complete their initial training within 90 days of assuming their positions. LBPAT personnel should not assume their lead-based paint related duties until they have completed the required training. Craftsman training can be effectively provided locally, or at 411th BSB and does not require TDY. After accomplishing the primary priority training, the second priority is to provide supervisory training for the LBPPM and the LBPOO. Planners and design engineers require design certification for lead-based paint abatement designs so they can adequately prepare work orders and project books involving facilities with LBP. The final priority is to provide awareness training to the remaining personnel in the lead-based paint management organization, including the Installation Commanders, the Environmental Legal Advisor, the Community Medical Officer, PMA, CHPPM-EUROPE, the Public Affairs Officer, and the Safety Officer. The LBPPM should also schedule annual lead-based paint awareness seminars for the Environmental Quality Control Committee (EQCC).

All site managers and site supervisors are required to have successfully passed both HUD/EPA and TRGS 519 certification training courses in order to legally manage a remediation-site. All remediation sites require at least two (2) certified site supervisors on-site at all times! Site supervisors will be determined by the COR together with the LBPPM.

**In-House Notification Procedures
(GFGS 15-7a, 15-7b, 15-7d and 15-7e) (GFGS 15-7b and 15-7e)**

The employer must consult with the affected employees or, if existent, the Works Council or Personnel Council, during the monitoring and assessment of lead-based paint materials and the determination of protective measures. The employer must inform the affected employees or, if in existence, the Works Council or Personnel Council, of the results of monitoring performed to determine lead-based paint concentrations or of the monitoring analysis. The employer must allow access to the documented monitoring information and must provide explanations as to the significance of the information.

If the provision of personal protective equipment is required, the employer must consult with the affected employees or, if existent, the Works Council or Personnel Council, regarding the selection of appropriate protective equipment and the conditions under which they are to be used.

The employer must immediately inform the affected workers and the Works Council or Personnel Council, if the area lead-based paint concentration has exceeded $30 \mu\text{g}/\text{m}^3$ at the workplace, provide an explanation for the occurrence and notify the Chain of Command accordingly in writing. The workers and Works Council or Personnel Council, must be consulted regarding the appropriate measures to be undertaken. In emergency cases, the employer must inform them immediately regarding the measures that have been taken.

Monitoring records must be established for measurements taken for the monitoring of lead-based paint concentrations. Copies of the monitoring records must be made available by the employer to the Works Council or Personnel Council. Medical monitoring programs for personnel and craftsmen exposed to LBP must be established and properly maintained in accordance with U.S. and host nation regulations.

The DPW and PMA will insure all personnel dealing with LBP have received the proper work directive and health and safety briefing prior to work begin. The written and oral instructions must be in the employee's primary language IAW the TRGS 555. The written form will also be signed after the briefing and maintained within the PMA and Works Council documentation.

Right to Know (Disclosure) (GFGS 15-14)

Verify the employer consults with the affected employees during the monitoring and assessment of lead-based paint materials and the determination of protective measures.

(NOTE: The employer may instead consult with the Works Council or Personnel Council, if such exists).

Verify the employer informs affected employees of the results of monitoring performed to determine lead-based paint concentrations, or of the monitoring analysis based on comparable activities.

Verify the employer allows access to the documented monitoring information and provides explanations as to its significance.

Verify that, if the employer is required to provide PPE, the employer consults with the affected employees regarding the selection of appropriate PPE and the conditions under which it is to be used.

Verify the employer immediately informs the affected workers and the Works Council or Personnel Council (if any) when the area lead-based paint dust concentration exceeds $30 \mu\text{g}/\text{m}^3$ in the workplace.

Verify the employer provides an explanation for why the area lead-based paint dust concentration exceeds $30 \mu\text{g}/\text{m}^3$ in the workplace.

Verify the workers and the Works Council or Personnel Council (if any) are consulted regarding appropriate measures to be taken in such a circumstance.

Verify that, in emergency situations, the employer immediately informs the workers and the Works Council or Personnel Council (if any) of the measures have been taken.

Verify monitoring records are established for measurements taken for the purposes of monitoring lead-based paint dust concentrations and blood lead levels.

Verify monitoring records are made available by the employer to the Works Council or the Personnel Council (if any).

There is a new Federal requirement to notify family housing occupants when work in their quarters will disturb known or suspected lead-based paint (LBP). This requirement becomes effective 1 June 1999 and will affect all Army Family housing built prior to 1978. This final rule is issued under the authority of section 406(b) of the Toxic Substances Control Act (TSCA), 15 USC, 2686(b) as amended by the Residential Lead-Based Paint Hazard Reduction Act of 1992 to add Title IV, entitled Lead Exposure Reduction. The Residential Lead-Based Paint Hazard Reduction Act is also referred to as Title X of the Housing and Community Development Act of 1992, Public Law 102550. A copy of this requirement can be found in the Federal Register, 1 Jun 98, at www.epa.gov/fedrgstr/EPA-TOX/1998/June/Day-01/t14437.htm.

The requirement is that whenever maintenance, repair, or renovation is performed in or on an occupied unit and LBP is disturbed (resulting in flaking or dust) that the worker (both in-house and contractor) must provide the occupant a copy of the pamphlet, "Protect Your Family from Lead in Your Home". This is the same pamphlet that is required to be given to occupants by the housing office when they are assigned to quarters containing lead-based paint (per ACSIM Memo, Subject: Disclosure Requirements for Lead-Based Paint Hazards in Army Family Housing, dated 24 Jul 96). The worker must also attempt to obtain from the occupant a written acknowledgment that the occupant has received the pamphlet (sample language on the above web site). These records must be kept for three years. This requirement also applies when work is done in common areas of occupied multi-unit family housing. The Garrison commander (or designated representative, such as the housing manager), as the "owner's" representative, must also be notified.

Contractors working in occupied AFH are also required to issue this pamphlet and this should be verified by the Government inspector. Current contracts should be modified as necessary to comply with this new requirement. Pre1978 AFH units that are certified as free of lead-based paint and units that are vacant due to major renovation or between occupancy are exempt from this requirement. This requirement does not apply to minor repair and maintenance activities (including minor electrical work and plumbing) that disrupt 2 square feet or less of painted surface per component.

Standard Operating Procedures (SOP) for Managing Lead-Based Paint

(Building Renovation, Repainting and Remodeling)

Activity Commanders, Managers and Building Occupants

1. REFERENCES: See Lead-Based Paint Management Plan References and Regulations Section
2. PURPOSE: The purpose of this SOP is to establish guidance for the Activity Commanders, Managers and Building Occupants within the 411th BSB facilities for the prevention of exposure to lead contaminated dust.
3. APPLICABILITY: This SOP applies to all tenants occupying 411th BSB property including military personnel, dependents, Department of the Army Civilians, Local Nationals, NATO troops, as well as for all other personnel stationed in the area of responsibility of the Commander, 411th BSB.
4. RESPONSIBILITIES:
 - a. The 411th BSB Commander is ultimately responsible for the activities of the DPW and will ensure compliance with the lead-based paint management requirement.
 - b. The EMO is responsible to the 411th BSB Commander for the administration and management of the 411th BSB Lead-Based Paint Management Program.
 - c. Activity Commanders, Managers and Building Occupants shall insure proper implementation of the Lead-Based Paint Management Program within their organization/activity. During the planning stage of repainting, remodeling or renovating any facility, the DPW-EMO Lead-Based Paint Program Manager (LBPPM) must be consulted in reference to any known prior survey/inventory documents and the presence of Lead-Based Paint in the specific building. Before any work can begin, approval from the EMO must be obtained.

Standard Operating Procedures (SOP)

Paint Film Stabilization Techniques

- Eliminate any exterior leaks in the building envelope (e.g. roof leaks; gutter or downspout problems; missing or damaged doors, roof flashing, missing trim, missing glass in windows; defective or missing caulk and glazing, etc.).
- Eliminate any interior water leaks (e.g. plumbing leaks; clogged condense drip lines; missing water pans; inadequately ventilated attic spaces; clogged bathtub drains; missing tile, grout or caulking in bathtub drains; windows that won't close properly).
- For exterior work, collect soil samples before the work begins (unless soil sampling has already been completed for a risk assessment). These samples need not be analyzed unless clearance samples show soil lead are above applicable clearance standards.
- Repair all rotted structural, siding, or railing components; defective plaster; missing door hardware; loose siding or trim and loose wallpaper.
- Prepare surface by wet scraping or wet sanding. Do not remove paint by burning or torching, power sanding without HEPA attachments, or abrasive blasting. Dry scraping and chemical strippers with methylene chloride are not recommended.
- Clean, degloss, neutralize and rinse surfaces. Surfaces should be dry before priming or repainting.
- Select primer and topcoat by considering longevity, moisture resistance and organic compound content with low volatility. Paint film stabilization involves the application of at least two coats (the primer and topcoat). Use a primer/topcoat system for the same manufacturer to ensure compatibility.
- Apply all paints at appropriate thickness or according to manufacturer's directions. Apply paint only during proper temperature, wind and humidity conditions. Allow sufficient time for each coat to dry fully.
- Conduct final clean-up according to Chapter 14 of the HUD Guidelines.
- At the end of the lead hazard control project, have a certified inspector technician or risk assessor conduct a clearance inspection and provide appropriate documentation or statements of lead-based paint compliance.
- Conduct reevaluations annually as indicated in the site specific schedule (Table 6.1 of HUD Guidelines). Perform ongoing maintenance of paint and restabilize paint whenever deterioration is discovered.

Hygienic Protective Measures (GFGS 15-10)

Verify workers who are engaged in the handling of LBP are provided with wash rooms containing showers as well as with rooms that have individual storage facilities for street and work clothing.

Verify changing rooms for street and work clothing are separated from each other by the wash room.

Verify work clothes and protective clothing are cleaned and, if necessary, disposed of by the employer.

Verify work clothes and protective clothing that have been disposed of are replaced by the employer.

Verify employees engaged in handling lead-based paint do not eat, drink, smoke, or sniff tobacco in the work rooms.

Verify the employer provides a specific area for the above activities that is free from lead-based paint hazards.

Verify, if disposable protective suits are not worn, the employer ensures that reusable protective suits or work clothes are cleaned regularly.

Verify that reusable protective suits or work clothes are thoroughly cleaned upon any interruption of work, during breaks, at the end of the shift, or upon leaving the asbestos hazard area. (NOTE: Thorough cleaning means washing, washable clothes, otherwise vacuuming).

Verify work clothes that are deposited for cleaning are collected in appropriately marked containers.

Verify containers in which work clothes are transported to the laundry are appropriately marked.

Verify, in addition to the information provided by marking, the laundering company is informed of the health hazards posed by the inhalation of fine lead-contaminated dust.

Precautionary Occupational Medical Examinations (GFGS 15-11)

Determine whether a lead concentration of $30 \mu\text{g}/\text{m}^3$ is exceeded at the workplace.

Verify only those workers who have undergone a physical examination within the last 12 to 36 months work in such a workplace.

Verify follow-up examinations are given every 12 to 36 months after working with lead-based paint has commenced. (NOTE: The use of respiratory protective equipment does not constitute a release from the requirements above).

Verify the physician writes an examination report and informs the person examined of the results. Blood lead levels may not exceed $40 \mu\text{g}/\text{dl}$ (whole blood).

Verify the physician issues to the employer and to the examined employee a certificate stating whether the employee is suited for the proposed job or not.

(NOTE: Information on physical examinations may be found in I,TVV "Occupational Medicine Precautions" (Arbeitsmedizinische Vorsorge, VGB I 00)).

Employment Restrictions (GFGS 15-12)

Verify no youths are assigned to work activities in which lead contaminated dust may be released.

(NOTE: This requirement applies to training and apprenticing also).

Verify neither expectant nor nursing mothers are assigned to work activities in which they may be exposed to lead-contaminated dust.

(NOTE: This prohibition does not apply if such persons will not be exposed because the work activities are properly performed in accordance with applicable standards, policies, and procedures).

Technical Safety Measures (GFGS 15-15a - 15-15i)

Verify the installation develops work procedures so, to the extent possible by using the best, cost-effective, and available technology, lead-based paint dust cannot be released.

Verify, if the release of lead-based paint dust cannot be prevented, the dust is completely collected at the point of generation, to the extent this is possible using the best, cost-effective, and available technology.

Verify that, if complete collection of the lead dust is not possible, ventilation measures using the best, cost-effective, and available technology are implemented.

Verify ventilated air is handled or cleaned so lead-based paint dust cannot enter the breathing air of other workers.

Verify the concentration of lead dust in the air discharged to the atmosphere does not exceed $50 \mu\text{g}/\text{m}^3$.

Verify lead contaminated dust is collected as near as possible to the point of generation.

Verify exhausted air is cleaned by means of a suitable dust separator.

Verify quantity of air returned to the room by the dust-collection equipment does not exceed 10 percent of the fresh air supplied to the room.

Verify that, if the air from the dust collectors will be re-circulated in the work rooms, the concentration of lead-based paint dust in the re-circulated air does not exceed 50 µg/m³.

(NOTE: If the elimination of lead dust can only be accomplished with mobile equipment, then by way of exception, filtered exhaust air may be returned to the work area for the following activities:

- abatement activities on construction materials and installations, machines, or equipment in enclosed rooms, if these activities are on a small scale).

Personal Protective Equipment

Verify the employer determines what PPE is necessary before the work commences.

Verify the employer provides PPE suitable for the substances to which the employee may be exposed.

Verify the employer maintains the PPE in a useful and clean condition.

Stationary Ventilation Systems (GFGS 15-15j)

(NOTE: The ventilating system is considered adequate when it is in keeping with the latest technological development and is constructed in such a way the required lead dust concentration limits are not exceeded).

Verify that, in addition to being adequate in accordance with the above note, the following criterion are met:

- fresh air is used for ventilating purposes
- the fresh air is taken from the outside atmosphere, or if impossible, from rooms where the air is uncontaminated and are connected directly to the outside atmosphere
- the lead concentration in the returned air does not exceed 50 µg/m³
- the amount of returned air at the fresh air inlet does not make up more than 50% of the total air flow
- a room being ventilated by a fresh inlet air stream has an air exchange equal to one room volume (in m³) per hour
- the dust concentration of the returned air does not exceed 50 µg/m³
- air handling systems (especially the separation system) are serviced regularly

Mobile Dust Filters and Industrial Vacuum Cleaners (GFGS 15-5b (2) and 15-5i, 15-15k)

Verify mobile dust filters and industrial vacuum cleaners used in accordance with the provisions of GFGS 15-5b (2), 15-5i and 15-15k meet the following requirements:

- the pass-through rate of the filter material or the combination of filters does not exceed 0.05 percent
- the equipment is approved by the Trades Association (Berufsgenossenschaft) via type-certification or by competent authorities.

(NOTE: Experience has shown the required performance is achieved with equipment of Category K1 preceded by a built-in C-filter [type-certification per ZH-1-1487 in combination with the corresponding instructions for testing,

or per DIN VDE 0700, part 205]. For small units with a capacity up to 1 kW, the Category K1 device with a single stage filter is sufficient).

Air Cleaning System Maintenance (GFGS 15-15m)

Verify the air cleaning system (vacuum filter unit and units used to maintain negative air pressure) are maintained, at least as minimum once per year, or sooner if needed.

Employee Exposure (GFGS 15-15n)

Verify employers avoid exposing their employees to carcinogenic hazardous substances at the same time as asbestos.

Electric Motors (GFGS 15-15o)

Verify electric motors are used whenever possible to power equipment.

Verify that, if diesel motors are used, emissions are minimized as far as possible by continuous maintenance and filtering of exhaust gas.

Water Handling Components (GFGS 15-15p)

Verify feed components (such as nozzles) for wetting liquids are designed to deliver an adequate quantity of liquid at the location where the dust is produced.

Glossary Of Terms

AIR LOCK - A system for permitting personnel passage without permitting air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways at least 6 feet (2 meters) apart.

AIR MONITORING - The process of measuring the fiber content of a specific volume of air in a stated period of time.

AMENDED WATER - Water to which a surface active agent has been added.

AR 200-1 - Army Regulation on Environmental Protection and Enhancement

ASHRAE - American Society of Heating, Refrigeration, and Air-conditioning Engineers

ASTM - American Society for Testing Materials

ATSDR - Agency for Toxic Substances and Disease Registry

CALCULATIONS -

SF to cm² - 1 SF = 929 cm²

Conversion ratio - n% to ppm - 0.2% = 2,000 µg/g = 2,000 mg/kg = 2,000 ppm

CFR - Code of US Federal Regulations

CHPPM-EUROPE - U.S. Army Center for Health Promotion and Preventive Medicine

CLEAN ROOM - An uncontaminated area or room is part of the worker decontamination enclosure system, with provisions for storage of workers' street clothes and protective equipment.

CLLP - Childhood Lead Poisoning Prevention (Program)

COMPETENT PERSON - As described in 29 CFR Part 1910.1001 and 1926.58.

CONTAMINATED AREA - A work area where airborne concentrations of lead contaminated dust exceed or can reasonably be expected to exceed the permissible exposure level (PEL).

CURTAINED DOORWAY - A device to allow ingress or egress from one room to another while permitting minimal air movement between the rooms. Typically constructed by placing two overlapping sheets of plastic over an existing or temporarily framed doorway, securing each along the top of the doorway, securing the vertical edge of one sheet along one vertical side of the doorway, and securing the vertical side of the doorway. Two curtained doorway spaces a minimum of 6 feet (2 meters) apart will form an air lock.

DECONTAMINATION ENCLOSURE SYSTEM - A series of connected rooms, with curtained doorways between any two adjacent rooms, for the decontamination of workers or materials and equipment. A decontamination enclosure system always contains at least one air lock.

DEMOLITION - The destruction or removal of any structural member of a facility together with any related handling operations.

ENCAPSULATION - Applying a penetrating or bridging sealant to the lead contaminated dust.

ENCLOSURE - All herein specified procedures necessary to complete enclosure of all lead contaminated dust behind airtight, impermeable, permanent barriers.

EPA - Environmental Protection Agency

EQCC - 411th BSB Environmental Quality Control Committee

EQUIPMENT DECONTAMINATION ENCLOSURE SYSTEM - A decontamination enclosure system for materials and equipment, typically consisting of a designated area of the work area, a washroom, a holding area, and an uncontaminated area.

EQUIPMENT ROOM - A contaminated area or room is a part of the worker decontamination enclosure system, with provisions for storage of contaminated clothing and equipment.

FIXED OBJECT - A unit of equipment or furniture in the work area cannot be removed from the work area.

GFGS - German Final Governing Standards

HEPA FILTER - A high efficiency particulate air filter capable of trapping and retaining 99.97 percent of asbestos fibers greater than 0.3 micrometer, in length, as defined by EPA and ASHRAE.

HEPA VACUUM EQUIPMENT - Portable vacuum cleaners fitted with certified (UL 586 label) HEPA filters.

HOLDING AREA - A chamber between the washroom and uncontaminated area in the equipment decontamination enclosure system. The holding area composes an air lock.

HMMP - Hazardous Materials Management Program

HQ - Headquarters

HSWA - Hazardous and Solid Waste Amendments

HUD - Housing and Urban Development

HUD Guidelines - Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing

IH - Industrial Hygiene.

LBP - Lead-Based Paint

LBPPPA - Lead-Based Paint Poisoning Prevention Act, initiated in 1971.

LBPAT - Lead-Based Paint Abatement Team (DPW In-house personnel when applicable, otherwise contractor)

LBPMMP - Lead-Based Paint Management Plan

LBPMT - Lead-Based Paint Management Team

LBPOO - Lead-Based Paint Operations Officer

LBPPM - Lead-Based Paint Program Manager

LCCA - Lead Contamination Control Act

MOVEABLE OBJECT - A unit of equipment or furniture in the work area can be removed from the work area.

NEGATIVE AIR PRESSURE EQUIPMENT - A local exhaust system capable of maintaining a constant low velocity air flow into the decontamination enclosure system and work area from adjacent unsealed areas.

NESHAP - National Emissions Standards for Hazardous Air Pollutants.

NEPA - National Environmental Policy Act

NIOSH - National Institute for Occupational Safety and Health.

OI - Operating Instructions.

O&M - Operations and Maintenance.

OPR - Office of Primary Responsibility.

OSHA - Occupational Safety and Health Administration.

OSHA Lead Levels -

Action Level -		30 $\mu\text{g}/\text{m}^3$
PEL - Permissible Exposure Level. <i>PEL for lead is</i>		50 $\mu\text{g}/\text{m}^3$
Blood Levels -	(Whole Blood)	40 $\mu\text{g}/\text{dl}$
	(Removable Level)	50 $\mu\text{g}/\text{dl}$

PEL - Permissible Exposure Level

PPE - Personal Protective Equipment

PWTB - Public Works Technical Bulletin

RAC - Risk Assessment Code (US standard)

RCRA - Resource Conservation and Recovery Act

REMEDICATION - A process of lead-based paint management involving removal, repair, encapsulation, encasement, etc.

- Removal - the removal of all LBP within the containment/work area incl. **all** visible dust and debris
- Encapsulation- sealing of LBP with an air tight elastic coating
- Enclosure- sealing off of LBP with an air tight solid structure

RENOVATION - Altering in any one way, or more, a facility components. Operations in which load-supporting structural members are destroyed or removed or excluded.

SDWA - Safe Drinking Water Act

SHOWER ROOM - A room between the clean room and the equipment room in the worker decontamination enclosure system, with hot and cold or warm running water and suitable arranged for complete showering during decontamination. The shower room composes an air lock between contaminated and clean areas.

TSCA - Toxic Substance Control Act

TWA - Time Weighted Average.

Units of Measure

cm - Centimeter
dl -Deciliter (1 liter)
mg - Milligrams
ppm - Parts Per Million
sf- Square Foot
μg - microgram per gram
$\mu\text{g}/\text{ft}^2$ - microgram per square foot
$\mu\text{g}/\text{l}$ - microgram per liter
$\mu\text{g}/\text{m}^3$ - microgram per cubic meter
$\mu\text{g}/\text{dl}$ - microgram per deciliter

UR - Urgency Rating

WASHROOM - A room between the work area and the holding area in the equipment decontamination enclosure system. The washroom composes an air lock.

WET WIPE CLEANING - The process of eliminating lead contamination from building surfaces and objects by using cloths, mops, or other cleaning tools that have been dampened with water, and by afterwards disposing of these cleaning tools as lead-contaminated waste.

WORKER DECONTAMINATION ENCLOSURE SYSTEM - A decontamination enclosure system for workers, typically consisting of a clean room, a shower room, and an equipment room.

References - (Partial list)

US Army:

AR 200-1	SDWA, as amended.
USAREUR 200-1	TSCA, as amended.
FGS(G),	EO 12088 (Federal Compliance With Pollution Control Standards).
NIOSH	EO 12114 (Environmental Effects Abroad of Major Federal Actions).
NEPA of 1969.	
OSHA, as amended.	
RCRA, as amended.	

Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (HUD Guidelines):

Code of Federal Regulations (CFR - as applicable to Lead-Based Paint):

29	CFR 1910.1025	General Industry Standard, Covers Private Employees
29	CFR 1910.134	Respirator Protection
29	CFR 1910.145	Signs and Tags
29	CFR 1910.20	Access to Employee Exposure and Medical Records
29	CFR, Part 1926	Lead Exposure in Construction; Interim Final Rule
29	CFR 1926.58	Compliance
29	CFR, Part 1926.62	Remediation of Lead
40	CFR Part 61 Subpart M	
	Part 61.141	Definitions
	Part 61.145	Applications
	Part 61.146	Notification Requirements
	Part 61.147	Emission Control Requirements
40	CFR Part 745	Lead; Requirements for Lead-Based Paint Activities in Target Housing
40	CFR Part 763.83	Definitions
40	CFR Part 763.84	Informing Building Occupants and Short-Term Workers
40	CFR Part 763.90	Imminent and Substantial Endangerment to Human Health or the Environment
	Part 763.91	Workers Protection
	Part 763.92	Training
	Part 763.94	Record Keeping

Other (as applicable to Lead-Based Paint):

ANSI Zg-2-9	American National Standard Institute Publication - Fundamental Governing Design and Operation of Local Exhaust Systems
ANSI Z88-2-80	Practice for Respirator Protection
GCA Spec G-7.1-1973	Breathing Air Supply

HN Regulations and Guidelines (as applicable to Lead-Based Paint):

TRGS 100	Release Thresholds for Hazardous Materials
TRGS 101	General Conceptual Definitions
TRGS 102	Technical Allowable Concentrations (TRK) for Hazardous Materials
TRGS 400	Standards for Air Monitoring of Hazardous Materials at the Workplace
TRGS 402	Determination and Evaluation of Concentrations of Hazardous Dust in the Air in Work Areas
TRGS 403	Rating Substances in the Air at the Workplace
TRGS 415	Maximum Duration for Wearing Respirator Equipment
TRGS 505	Lead - Technical Guidelines for Hazardous Materials
TRGS 507	Maintenance of Surface Areas in Rooms and Containers
TRGS 514	Storage of Hazardous Materials in Packaging and Mobile Containers
TRGS 519	Asbestos in Demolition, Renovation and Repair Work, originally TRGS 517, Part II
TRGS 555	Operating Instructions and Preparations
TRgA 560	Recirculating Air While Working with Carcinogens
TRGS 900	Maximum Workplace Concentrations and Biological Substance Tolerant Levels (Arbeitsstofftoleranzwerte-MAK-Werte-Liste)

Berufsgenossenschaften (Accident Prevention Regulations - as applicable to Lead-Based Paint):

VBG 1	General Regulations
VBG 37	Construction Work
VBG 74	Steps and Ladders
VBG 100	Medical Precautions
VBG 109	First Aid
VBG 113	Protective Measures While Working with Carcinogens
VBG 119	Health Endangering Mineral Dust
VBG 122	Safety Engineer
VBG 123	Medication at the Workplace
VBG 125	Safety Signs at the Workplace
VBG 126	Removal of Garbage
ZH 1/77	Guidelines for Work in Containers and Small Workspaces
ZH 1/134	Instruction Pamphlet for Respirators
ZH 1/140	Safety Regulations for Ventilation Systems at the Workplace
ZH 1/179	Instruction Pamphlet for Masks
ZH 1/220	Hazardous Materials Ordinance
ZH 1/487	Systems for Separation of Health-Endangering Dust and Recirculating Clean Air in Work Areas
ZH 1/502	Work Safety Law
ZH 1/514	Safety on Demolition Work
ZH 1/516	Dust Measuring and Evaluation
ZH 1/525	Ordinance for Workspaces
ZH 1/606	List of Approved Respirators

General federal laws published in Bundesgesetzblatt (as applicable to Lead-Based Paint):

KrW-/AbfG	Federal Waste Disposal Law, Work Space Guidelines
ArbStättV	Work Space Ordinance
ArbStoffV	Ordinance for Hazardous Materials
ASiG	Occupational Safety Law
BkV	Occupational Health Ordinance
BImSchG	Federal Emissions Law for the Protection from Air Pollution, Noise Pollution, Vibrations and Other Procedures
ChemG	Chemical Law
GefStoffV	Hazardous Materials Ordinance
GGVS	Hazardous Materials Ordinance - Roads
GSG	Respirator Protection Law for Technical Equipment
TA-Abfall	Technical Guidelines for Waste Materials

TA-Luft	Technical Guidelines for Clean Air
WHG	Clean Water Act (Wasserhaushaltsgesetz)

General laws and regulations published by the German states (Bundesländer as applicable to Lead-Based Paint):

LBO	State Construction Regulations (Landesbauordnungen der Bundesländer)
VOB	Contractual Regulations for Construction (Verdingungsordnung für Bauleistungen)
VDI 2262	Dust Reduction at the Workplace (Staubbekämpfung am Arbeitsplatz)

German DIN's:

DIN 3181	Respirators, Filters
DIN 58645	Respirators, Complete Equipment
DIN 58646	Respirators, Various Parts

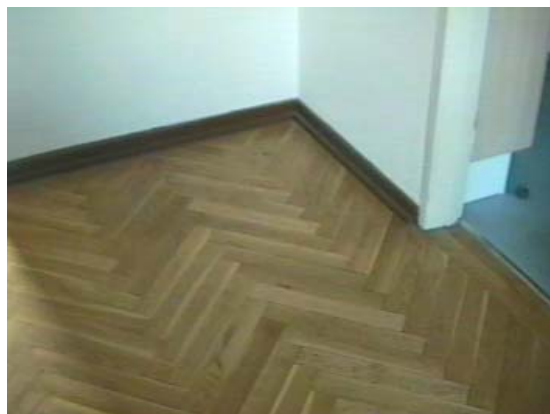
411th BSB Survey Priority List

Priority	Lead-Based Paint Survey Status	
Medical Facilities	100%	Schwarz, Hanson & Partner, Shumate Consultants
DODDS	100%	Schwarz, Hanson & Partner, Shumate Consultants
Family Housing	100%	Schwarz, Hanson & Partner, Shumate Consultants (65 Units have been surveyed, meeting HUD survey requirements, as regards housing units in the 411 th BSB)
Administrative/Commercial Facilities	100%	Schwarz, Hanson & Partner, Shumate Consultants
Sport/Youth Facilities	100%	Schwarz, Hanson & Partner, Shumate Consultants
Dorms & Barracks	100%	Schwarz, Hanson & Partner, Shumate Consultants
Miscellaneous Facilities	100%	Schwarz, Hanson & Partner, Shumate Consultants

Examples of LBP within the 411th BSB

Lead-Based Paint Surfaces:
Building Interior

Baseboard



Stair Wells



Building Exterior:

Eaves



Handrails



Car Port Supports



Play Grounds and Equipment

